RABIES

AND

ANTI-RABIC TREATMENT

IN INDIA

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(Adapted.)

MADRAS:

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

1916.

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RABIES AND ANTI-RABIC TREATMENT IN INDIA.

I—DEFINITION.

Rabies or canine madness is an acute disease of the central nervous system, occurring in dogs and allied animals, and transmitted from animal to animal by means of bites. Man and domesticated animals participate in the disease only, as a rule, by chance. The term "Hydrophobia" should be confined to this disease as met with in man only, as the fear of water is not seen in the lower animals.

II—ETIOLOGY.

The causative agent of rabies has not yet been identified, but there is not the least doubt that it is a living organism. As we shall have to refer frequently to this unknown organism it will be referred to as "the rabies virus."

In the body of a rabid animal the virus is found in the nervous system, that is to say in the brain, spinal cord and large nerves; also in the salivary glands and in certain of the internal organs, such as the pancreas and suprarenal glands. For practical purposes the blood, and other structures of the body, such as bone, muscles, etc., do not contain the virus in sufficient quantities to convey the infection.

The danger of infection from the central nervous system only applies to those, e.g., medical officers, etc., who have occasion to open the skull of a rabid animal in order to remove the brain, and, whilst doing so, inoculate themselves by an infected knife or similar means.

The virus passes from the brain into the salivary glands, and thence into the saliva of the infected animals. The saliva of human beings and herbivora contains practically no virus.

Before the saliva can infect another animal or man, it must gain entrance into the body through some broken surface of skin or abraded mucous membrane. The teeth of the rabid animal penetrating the skin constitute the usual method of introducing the virus into the system of a healthy animal: the same result may occasionally occur if the infective saliva comes into contact with any recent cut or abrasion. The chance of infection through cuts and abrasions is very much smaller than in the case of definite bites, for, in the former case, the virus is only deposited on the surface of the wound, and being very delicate in nature it is easily destroyed by antiseptics, etc. With deep, penetrating bites the case is very different, as caustics are very rarely able to reach all the virus inoculated.

It is, therefore, important to know at what stage of the disease in the biting animal the virus enters the saliva. From experiments conducted to elucidate this point it has been determined that the saliva is never infectious earlier than 72 hours before definite

symptoms appear. There is, however, one case recorded in the literature in which the saliva was believed to be infective 6 days before symptoms appeared in the biting animal. Once symptoms set in, the animal rarely lives longer than 2 to 4 days. From these facts we formulate the following:—

If the biting animal remains alive and well for 10 days after biting a human being, the saliva cannot have been infective and treatment in such cases is not necessary.

The milk of animals suffering from rabies has seldom been shewn to contain the virus, which probably exists in the milk only in very high dilution, so that if no recent cuts or abrasions are present on the lips or mouth, this unboiled milk can be drunk with impunity. If further, the milk be boiled the virus, if present, is invariably killed, thereby eliminating even the remote chance of infection by this unlikely route.

For all practical purposes, *the saliva* is the only channel by which man or other animals contract rabies. As the dog is the animal most frequently affected by this disease, it stands to reason that if rabid dogs could be prevented from biting healthy animals, the disease would, in a short time, be completely eradicated.

That this is a matter of fact and not of imagination was conclusively proved by the General Muzzling Order of 1894, introduced by Walter Long. The importation of rabies into the British Isles, has since been prevented by a strict quarantine for 3 months of all dogs entering the country, and by a further police supervision of them for another 3 months.

III—INCUBATION PERIOD.

The incubation period of rabies—that is to say the interval of time that elapses between the bite of a rabid animal and the onset of the earliest symptoms in the bitten animal—is an extremely variable period. This is due to the fact that the disease does not make itself evident until the virus has reached the brain and spinal cord and has set up sufficient changes in these structures to cause symptoms. The variability of the incubation period is probably due to two factors:—

(1) The variations in the dose of poison or virus inoculated.
(2) The situation of the bite, or "the proximity of the bite to the brain."

We know that a large dose of poison kills an individual in a shorter time than does a small dose; and the case is similar with the rabies virus. Multiple, deep bites on bare skin are followed by a shorter incubation period than are superficial bites, or bites through clothing where a good deal of the virus is lost on the clothing.

M. Pasteur considered that the virus travelled along the nerves, and that the nearer the wound was to the brain, the shorter was the path to be traversed by the virus, and consequently the shorter the incubation period. Bites on the face are especially dangerous; they are, moreover, always bites on bare skin, they are frequently deep and, as the biting animal is in such cases usually a particularly ferocious one, the bites are usually multiple. We believe that

these factors, viz., depth of the bites, bareness of skin, and multiplicity of bites, are of greater importance in this connection than the actual situation of the bites.

The incubation period varies in the dog from about 16 days as a minimum to a maximum of 90 days. The majority of cases in the dog show symptoms between the 25th and 55th day after the bite: very occasionally the incubation period is longer than 3 months.

For this reason a dog or other animal which has been bitten by a rabid animal should be segregated for at least 3 months, and kept under careful observation for another 3 months.

IV—SYMPTOMS.

The report of the Pasteur Institute at Kasauli for 1912 shows the order of frequency of biting animals. Of over 17,000 human beings treated between 1902 and 1912, the animals which bit them were as follows:—

Dogs	14,730
Jackals	2,491
Horses, Mules, etc.	140
Cats	78
Cows and Buffaloes	16

As the dog, jackal and horse are, therefore, the animals chiefly concerned in spreading rabies in India, we will enumerate the symptoms which these animals develop in this disease.

RABIES IN THE DOG.

In every text-book two types of the disease are described:—

1. Dumb or Paralytic Rabies.
2. Furious Rabies.

In the dog the symptoms are extremely variable. Sometimes the dog shows furious symptoms and later on dies in a paralysed state; at other times only paralysis is seen: more rarely the animal may only be restless and off its food and die within a few hours from convulsions. We have also noticed that the symptoms vary with the kind of dog under observation.

In pariah dogs and in young puppies furious symptoms are more common, and hence human beings are often bitten by these dogs. Well cared for dogs, on the other hand, practically never bite human beings: in fact in the early stages of the disease they often exhibit an increased affection towards their masters. This fact is clearly brought out by the figures of the report of the Kasauli Institute for 1912. Out of the 3,103 Indians treated, only 14 were licked on cuts and abrasions: whilst out of the 400 Europeans treated 143 were licked on cuts or abrasions. There were also 360 further cases in which treatment was unnecessary: these latter were chiefly Europeans, who had saliva on their hands, but who had no cuts or abrasions.

The facts mentioned above ought to make it amply clear to the reader that *all* the signs and symptoms below enumerated are not to be expected in *every* rabid dog.

For descriptive purposes these symptoms may be classified under two main headings;

(1) The earliest symptoms observed are those of "Brain Irritation" and are as follows:—

Restlessness, as shown by the animal straying away from home or aimlessly wandering up and down the room, and every now and then hiding away in dark corners. In well kept dogs this restlessness is often missed, as the dog continually keeps coming up to his master to be petted.

Hallucinations, e.g., snapping at imaginary objects, flies, etc. In well cared for dogs the eating of filth may be looked upon as a very characteristic symptom.

Fury.—This symptom, as previously mentioned, varies with the type of dog concerned. In well kept dogs fury is, as a rule, only vented on its own personal belongings, e.g., tearing up its bedding or the ground, or biting the chain or post to which it is attached. Such a dog almost invariably quiets down on the approach of its master. These dogs may attack other animals, but rarely viciously bite human beings. The most that they usually do is to just grip the hand of their master and inflict a trifling wound.

With pariah dogs the case is different, for they attack all and sundry who happen to cross their path.

Convulsions.—The most typical sign of brain irritation is the occurrence of convulsions, affecting the whole body. As a rule these convulsions do not appear until paralysis has set in and is marked. In young animals convulsions appear early in the disease, and cause death within a few hours from their onset.

Besides the symptoms mentioned above, other early signs are—

1. Fever, accompanied by a rapid pulse.
2. Increased salivation, which may or may not be present.
3. Wrinkling of the forehead and eyebrows, giving rise to a hunted appearance in the dog's expression.
4. Redness of the conjunctiva.

(2) *Paralysis* generally follows the symptoms of brain irritation:—

The paralysis usually commences in the hind legs and is shown by the waddling gait of the dog. This may be preceded or followed by paralysis of the throat and laryngeal muscles. The former is shown by difficulty which the animal has in swallowing, in such cases the owner usually puts his fingers down the dog's throat to look for an imaginary bone. If this operation seems necessary, the employment of a stout pair of gloves is strongly recommended to avoid the risk of infection.

The laryngeal paralysis may be shown by the alteration in the timbre of the bark. The bark is noticeably altered in note and pitch. Instead of the normal, clear bark, which consists of a succession of sounds, equal in length and intensity, it is raucous, muffled and deeper in tone. The first bark commences with open mouth, followed immediately by five or more barks which come from the back of the throat, and during each bark the jaws are not properly closed, as they are in the healthy bark.

The paralysis extends to the jaw muscles, and the lower jaw finally droops. The animal gradually becomes entirely paralysed, so that it can neither sit, move nor feel. During this end stage of complete paralysis, convulsions come on and the end is thereby hastened.

Once definite symptoms appear, life is rarely prolonged for more than 2 to 5 days.

The following chief symptoms are relied upon as being indicative of rabies in the dog:—

1. The short duration of the disease, 2 to 5 days.
2. The infallible termination of the disease, in death.
3. In well cared for dogs increased affection, hallucinations, "bone in the throat," paralysis of the hind limbs.
4. In pariah dogs—the number of persons or animals bitten at the same time as the patient, and the attack being without provocation.

We have purposely avoided any mention of difficulty in taking food or water because in animals there is never any difficulty in eating or drinking until, at the last stage of the disease, paralysis of the throat muscles makes these acts impossible. The erroneous picture that has been imprinted upon the mind of the lay public,—of the mad dog running down the road sheering to one side on seeing a puddle of water,—is a purely mythical one. We wish to drive this point about the absence of dread of water in the dog well home to the reader. Times without number do patients insist that their dogs could not possibly have been suffering from rabies because they never exhibited any fear of water. This popular error has arisen from the use of the term "hydrophobia," the alternative name for the disease as it is met with among human beings, in whom the sign is invariably present.

V—SYMPTOMS OF RABIES IN OTHER ANIMALS.

Jackals.—The signs and symptoms of rabies in this animal are greatly simplified. It may be taken as axiomatic that if a jackal attacks a human being without provocation it is certainly rabid.

Horses, etc.—In these animals the most characteristic signs are:—

1. Fury, as shown by their madly rushing about and smashing up everything with which they come into contact, thereby frequently causing injuries to themselves.
2. Biting their own chest, body, etc.
3. Sometimes biting other animals or human beings.
4. Commencing paralysis, as shown by staggering.

VI—THE DIFFERENTIAL DIAGNOSIS OF RABIES.

As has been previously pointed out, the symptoms of rabies in the dog are extremely variable, and we have already drawn attention to certain of them which we regard as characteristic of the disease. The following diseases of dogs and allied animals may, however, simulate rabies:—

(1) *Distemper.*—The term "distemper" does not imply a single disease, but is applied generally to any acute bacterial

disease that affects young dogs. The following clinical types of distemper are recognized :—

1. An acute catarrhal disease affecting the mucous surfaces, the nose, eyes and throat. It is commonly met with in young animals, although adult dogs which have never previously suffered from it may be infected. It occurs in epidemics, and is met with during the months of October to April. The symptoms commence with high fever, running from the eyes and nose, discharge being at first watery and later purulent. The infection may extend up through the nose to the brain, giving rise to a meningitis ; or down the trachea causing a broncho-pneumonia. The causative agent is a diplococcus (Mac-Gowan). The disease is very often fatal.
2. Intestinal form. This commences with fever and diarrhœa : the motions are black in colour, and sometimes tinged with blood or mucus.
3. Meningeal form. Is generally a late stage of the acute catarrhal form. The hind limbs become paralysed, and the paralysis finally extends to all parts of the body. The diagnosis is made by the presence of a purulent discharge from the nose and eyes.

(2) *Pseudo-rabies of Zwick and Zeller.*—This disease is seen in epidemic form and is transmitted from animal to animal by means of bites. The incubation period is from 2 to 5 days ; in rabies the incubation period is never less than 14 days.

The symptoms commence with twitchings of the muscles in the neighbourhood of the bite. These gradually become more and more violent and finally come to affect all the muscles of the body. In this stage there is increased salivation, and fury is often exhibited. The animal frequently dies in one of these convulsive seizures.

(3) *Pyocyaneus Disease.* Often affects young animals, and the symptoms closely simulate rabies. The only means of differential diagnosis is by blood culture and recovery of the Pyocyaneus bacillus.

(4) *Snake Poisoning*—

(*a*) With Colubrine snakes, *e.g.*, cobra, krait, etc. Within a couple of hours after the bite the animal begins to appear drowsy : the upper eyelids droop, the lower jaw hangs down, and finally complete paralysis occurs. Death takes place within 2 to 6 hours by paralysis of the respiratory muscles. The heart often goes on beating for some minutes after respiration has ceased. There are practically no local signs or symptoms seen at the site of the bite; but the bitten limb is the first to shew evidence of paralysis, often within 3 minutes after the bite.

(*b*) With Viperine snakes, *e.g.*, Russell's Viper, Echis, etc. If the venom has been injected into a vein, death takes place from generalised convulsions within 5 to 10 minutes of the bite. But if the venom has only been inoculated just under the skin the local symptoms are prominent and characteristic of the action of the venoms

of this family of snakes. There is great pain, tenderness and swelling of the limb, occurring within a few minutes of the bite. After a short time a continuous oozing of blood occurs from the punctures caused by the fangs. If the dose of venom inoculated has been a large one, death occurs from intra-vascular coagulation, or by heart failure. If the dose inoculated be small, death may be delayed for 1 to 3 days, and is caused by the numerous hæmorrhages which occur from all mucus surfaces. In all cases of viperine bites the inoculation site becomes gangrenous.

(5) *Tetanus.*—This disease is characterised by generalised spasms all over the body and by rigidity of the jaw muscles. This latter sign differentiates it from rabies.

VII.—METHOD OF REMOVING THE BRAIN OF A SUSPECTED RABID ANIMAL FOR LABORATORY EXAMINATION.

It is now possible to make a diagnosis of rabies by a microscopic examination of the brain of the affected animal within a couple of days or so; whereas, formerly, the only method available was to inoculate an animal from the suspected brain and wait for rabies to develop, which takes from ten to sixty days.

The importance of early diagnosis from the point of view of persons bitten is evident.

2. In order to facilitate the microscopic examination of brains, they should be fixed, while fresh, in a solution made up in the following proportions :—

Bichromate of potassium	3 grammes
Glacial acetic acid	5 cubic centimetres
Water (distilled preferred)	95 " "

or, stated in other terms,

Bichromate of potassium	45 grains
Glacial acetic acid	1½ fluid drams
Water (distilled preferred)	3¼ fluid ounces

and despatched the same day to Coonoor.

The parts of the nervous system of greatest value are, in order of merit, the hippocampus major, the cerebellum, the cortex, the medulla and the spinal cord.

3. If the brain has to be sent a journey lasting longer than 48 hours, the quantities of bichromate and acetic acid should be halved.

4. Brains preserved in alcohol do not give reliable preparations for the microscopic examination.

5. The microscope occasionally fails, generally on account of badly preserved or insufficient material being sent, so then the animal test must be resorted to. If the latter is to be successful, a portion of the fresh brain of the animal must be put at once into 50 per cent glycerine and despatched to Coonoor. Alcohol and also the bichromate fixative mentioned above, destroy the virus, so inoculation of an animal cannot be performed with such material.

6. In removing the brain of a rabid animal, great care must be taken not to touch any part with the naked fingers for fear of infection. Instruments must always be used.

7. To remove the brain of a dog the simplest way is to fracture the skull with a hammer through the unbroken skin; then cut through the skin and remove the fragments of bone with bone and dissecting forceps. Having exposed the brain, cut off a piece of the cortex with a sterile knife and put it with sterile forceps into a small wide-mouthed bottle containing 50 per cent glycerine and cork it tightly. The bottle should be surrounded with saw-dust or dry grass or cotton wool and packed in a tin or wooden box. The remainder of the brain should be extracted whole from the skull and divided longitudinally with a knife and put into a wide-mouthed bottle containing the bichromate fixative. In the case of a large brain several transverse slices should be made to allow the fixative to penetrate more rapidly into the interior.

No antiseptics must be allowed to come into contact with the brain during the process of its removal.

8. The quantity of fixative should be at least twenty times the bulk of the tissue put in it.

9. The bottle used should be filled right up to the stopper with the fluid, otherwise the brain substance becomes entirely broken up in the post.

VIII.—VALUE OF THE MICROSCOPICAL EXAMINATION OF THE BRAIN.

The "Negri body test" is only of value if positive. The Negri body is not the parasite of rabies: and its occurrence in the ganglion cells of the brain is met with in other diseases also, as it is a structure produced by the degeneration of the nuclei of nerve cells. Nevertheless, if Negri bodies are present and fairly numerous, a diagnosis of rabies can be made with certainty, as in no other condition are Negri bodies to be found on microscopical examination in such large and definite numbers.

If, therefore, a report is received to the effect that no Negri bodies were found, this finding does not necessarily exclude rabies. For in some cases the rabid animal dies before Negri bodies have had time to form: whilst in the case of brains not properly preserved and hardened the brain structures may be so disorganised that Negri bodies, even though present, may be very difficult to find.

Hence if a report is received that the brain was received in a condition unfit for examination, or if a report is received that no Negri bodies could be found, it must remain with the medical or veterinary officer or with the person bitten to decide whether the animal was or was not suffering from rabies. In so doing, the above detailed account of the symptoms to be looked for will perhaps be found of use.

No reliance is to be placed upon the examination of the brain unless it results in a positive finding of rabies. We would impress upon medical and veterinary officers that the symptoms shewn by the animal, and the keeping of it tied up for 10 days will afford much clearer evidence regarding the diagnosis of rabies than any laboratory test.

IX.—MEASURES TO BE ADOPTED FOR ANIMALS BITTEN BY A RABID ANIMAL.

When the biting animal develops any symptoms of rabies and dies or is killed, all animals which it has bitten must be treated on the assumption that they are liable to develop rabies within *three*

months, and even possibly within *six months.* If the bitten animals are not valuable, or if there are children in the house, it is better not to run any risks, and to destroy at once all animals bitten. As, however, *every* animal bitten by a rabid animal does not develop rabies, the owner of a valuable animal may decide to run the risk of keeping it alive on the chance of its escape. If he does so, especially in the case of dogs, he is morally—If not legally—responsible for any damage done by that animal, should it develop rabies at a subsequent date.

If the owner decides to keep the dog, it should be securely chained up; and, when taken out for exercise, should be muzzled and taken on a lead. The attendant should be warned about the possibility of the dog developing rabies. If it appears to be ill, the greatest care must be exercised in going near the dog, giving it medicines, etc. Any handling of the dog's mouth should be performed with thick gloves on: for this purpose a cheap pair of wicket-keeping gloves may be used.

The Quarantine period should last at least three months from the date of bite, and should be followed by strict supervision for another three months.

During the latter three months the dog need not be tied up, as it has probably escaped rabies. If, however, at any time it appears to be in any way out of condition, it should be again tied up and watched for a few days: and the same precautions taken as before in handling it, etc.

X.—MEASURES TO BE ADOPTED FOR PERSONS BITTEN BY RABID OR SUSPECTED ANIMALS

(*a*) *Treatment of the wound.*

As soon as possible after the bite, the wound should be well washed, dried and then thoroughly cauterized. The best agent to employ is pure carbolic acid because it penetrates well, quickly destroys the virus, and, being a local anæsthetic, only causes a temporary smarting of the wound. If pure carbolic acid cannot be obtained, permanganate of potash—crystals or a saturated solution—pure nitric acid, silver nitrate, etc., will do; but they are not as efficient as pure carbolic acid.

It is necessary here to describe what is meant by thorough cauterization. Some persons have an idea that to efficiently cauterize a couple of penetrating tooth wounds, it is necessary to destroy about 5 or 6 square inches of skin, and quite overlook the necessity of seeing that the caustic reaches to the bottom of the wound. To thoroughly cauterize a bite each separate tooth mark must be dealt with in turn, and care taken that the caustic actually comes into contact with the sides, and penetrates to the bottom of the wound. Sometimes it is necessary to open the wound to allow the caustic to reach every nook and cranny in which the virus may have lodged. Where there are definite teeth marks a probe should always be used. Care should, however, be taken that the skin is not too extensively destroyed, as this delays healing. All that is necessary is to see that the caustic has destroyed the tissues which may have actually come into contact with the virus on the infected tooth.

We believe that if bitten persons were seen early enough, i.e., within an hour of the bite, and if the situation of the bite, e.g., calf or forearm, rendered total excision of the infected area possible, the best treatment that could be adopted would be to excise the whole wound, thereby getting rid of all lodged virus. Neither cauterization nor excision, however, can be absolutely depended on to remove all chances of infection; yet, at the same time, when properly carried out, the bulk of the virus is destroyed, thereby diminishing the dose of poison inoculated and giving the Pasteurian treatment a better chance of destroying the remainder of the virus left in the wounds.

(*b*) *Pasteurian treatment for the prevention of hydrophobia.*

The wound having been efficiently cauterized, the next point for decision is—"Should the person bitten be sent up to a Pasteur Institute or not?" Usually a medical officer is present to decide the question, but sometimes no medical man may be available for consultation, and the bitten person may have to decide for himself. For this reason we give a few hints which may be of use in helping such a person to arrive at a decision.

The first consideration is the state of the dog's health. We may classify cases under the following headings :—

(*a*) Dog is dead, and has been certified as being rabid by a medical or veterinary officer, or is suspected of rabies.

(*b*) Dog is unknown.

(*c*) Dog is still alive and can be put under observation.

(*a*) *Dog is dead*, and is certainly rabid. Under these circumstances :—

All persons bitten, and all persons licked on definite cuts or abrasions must proceed at once for treatment to a Pasteur Institute. Contact of saliva on granulating wounds is devoid of any danger.

Dog is suspected of rabies. A popular idea appears to be prevalent that the brain should be sent to a laboratory and if the result be positive, that the patient should then proceed for treatment. Little reliance is, however, to be placed upon the microscopical test, for reasons detailed on page 12.

Therefore, when the dog is dead, and the symptoms are at all suspicious of rabies, it is better to be on the safe side and to undergo treatment.

(*b*) *Dog is unknown.*—These cases frequently occur amongst policemen, etc. They are patrolling up and down a bazar, and a dog suddenly rushes out and bites them in the dark, and nothing more is seen or heard of the dog. Under these circumstances, i.e., an unprovoked attack, it is better to assume that the dog was rabid, and to send the patient up for treatment at once.

(*c*) *Dog is still alive.*—Under *no* circumstances should the dog be destroyed, for, by so doing, one of the most important signs of rabies, viz., the short duration of life, two to three days, is lost

If the animal, however, shows no symptoms and remains alive *and well* for 10 days the saliva cannot have been infective, and therefore, the bitten person need have no further fear, even should the dog develop rabies at a later date. On the other hand if the dog whilst under observation during these 10 days, appears ill and if the person is bitten on the face or has been badly bitten elsewhere, i.e., many deep bites on bare skin, it is better for him to proceed at once to a Pasteur Institute, in order to avoid any delay in commencing treatment.

If the animal should die within these 10 days it may be surmised that it is rabid and treatment therefore becomes necessary.

In the case of Europeans who are licked but not bitten by animals suspected of rabies it is most essential that the patient should, on the day when licked or as soon after as possible, carefully examine the skin to see if any recent cuts or abrasions are present with which the saliva could have come in contact. It is impossible for the authorities of the Institute to inform such patients some 4 or 5 days later, whether they had or had not small abrasions present at the time of being licked. The responsibility for deciding (1) whether the saliva did or did not come into contact with the skin, and (2) whether any recent cuts or abrasions were or were not present at the time must rest with the patient himself.

Persons bitten or licked by rabid animals more than two months previously need not, as a rule, be treated at an Institute. Most cases have either developed hydrophobia or have, in all likelihood, escaped infection on the expiry of two months from the date of the bite or lick. Therefore treatment is not advised in such cases.

In any case of difficulty or doubt *a detailed telegram should be sent to the Institute* stating symptoms, the circumstances of the infection, etc., when an opinion can often be given. In cases where treatment is not necessary this may save patients from the expenses and trouble of a long journey. The code words for telegrams are *Pasteur* for the Pasteur Institute of India at Kasauli : and *Lyssa* for the Pasteur Institute of South India at Coonoor.

XI.—MEMORANDUM OF INFORMATION FOR THE GUIDANCE OF PATIENTS PROCEEDING TO COONOOR FOR ANTI-RABIC TREATMENT AT THE PASTEUR INSTITUTE.

Coonoor is situated on the Nilgiri Hills about 6,000 feet above sea-level and can be reached by the Nilgiri Railway from Mettupalaiyam in about three hours.

2. Mettupalaiyam is on the south-west branch of the South Indian Railway and is easily accessible from all parts of Southern India. The Institute is about a mile from the Coonoor Railway Station.

3. *Climate.*—The temperature of Coonoor ranges between 60° F. and 75° F. from March to September and between 40° F. and 60° F. from October to February.

4. The rainfall is about 70 inches, the greater part being received during the north-east monsoon in October, November and December.

5. Persons coming from the plains require fairly warm, but not heavy clothing and bedding. Indigent Indian patients will be supplied with blankets.

6. *Accommodation.*—There are several hotels and boarding-houses which are open all the year round and also a residential club.

(*a*) Europeans and Eurasians are not accommodated at the Institute, but must make their own arrangements for board and lodging about which there is no difficulty. Persons who cannot afford hotel rates can find inexpensive lodgings in the town within three-quarters of a mile of the Institute.

(*b*) Well-to-do Indians can find houses in convenient situations and others can arrange for lodging and meals in the town. Indigent patients are accommodated in the free quarters in the Institute compound and will be provided with blankets and cooking pots.

(*c*) British soldiers and their families stay in the Sanitarium at Wellington and are sent daily to the Institute in a tonga.

(*d*) Soldiers of Indian regiments will be accommodated in tents in the Institute compound.

7. Patients who are sent by or at the expense of private employers, friends or other private persons or associations should be provided by them with the cost of their return journey and also with sufficient money to pay for their food during the course of treatment which lasts 14 days. If desired, money for these purposes may be sent to the Director of the Institute, and this course is strongly recommended in the case of menial servants and illiterate or other irresponsible people.

8. *Treatment.*—Patients should proceed to Coonoor as soon as possible after being bitten. All treatment at the Institute is free, but patients in a position to do so are expected to contribute something towards its upkeep. The course of treatment lasts 14 days and patients are not laid up, but can go about as usual having regard to the rules of life recommended. Patients should always endeavour to bring with them the brain of the animal that bit them, one half in pure glycerine and the other half in a mixture containing 3 per cent of bichromate of potash and 5 per cent glacial acetic acid in distilled water.

XII.—RULES FOR THE GRANT OF CONCESSIONS TO GOVERNMENT SERVANTS AND TO INDIGENT PERSONS NOT EMPLOYED IN THE PUBLIC SERVICE TO ENABLE THEM, WHEN BITTEN BY RABID ANIMALS TO PROCEED TO THE PASTEUR INSTITUTE AT COONOOR FOR TREATMENT.

A—*Concessions to Government servants.*

1. "Government servant" in these rules means a Government servant whether temporary or permanent paid from Imperial or Provincial funds or from Port and Marine funds administered by Government, but does not include a Government servant on foreign service or in Municipal or Local Fund service.

2. Any Government servant who has been bitten by a rabid animal, and who is too poor to proceed to Coonoor at his own expense may, provided that he is drawing not more than Rs. 100 a month, be granted—

(i) His actual travelling expenses to Coonoor and back, *viz.* (*a*) a single fare each way by railway of the class by which he is entitled to travel on duty, (*b*) for journeys by road or river, the actual cost of transit, not exceeding the amount admissible under rule. The expenses for the return journey should be paid to the patient at Coonoor after the treatment is finished, by the Treasury Officer at that station, on production of a discharge certificate from the Director of the Institute.

(ii) An advance of one month's pay.

(iii) One month's casual leave, any leave required in excess being treated as privilege or sick leave. Provided that if the absence of such Government servant makes it necessary for a substitute to be appointed, the period of absence up to one month may under orders of Government be treated as extra privilege leave instead of casual leave.

Note.—The words "not more than Rs. 100 a month" occurring in this rule and the word "pay" occurring in this and subsequent rules should be interpreted as referring to "monthly substantive pay" as defined iu article 38, Civil Service Regulations. In the case of holders of temporary appointments, the pay or acting allowance which they draw in their temporary or officiating posts respectively should be taken as substantive pay.

3. Any Government servant who has a difficulty in finding at once the means to enable him to proceed to the Coonoor Institute and whose pay exceeds Rs. 100 but does not exceed Rs. 500 a month, may be granted an advance not exceeding the amount admissible under Rule 2 (i), and may also be granted an advance of one month's pay and one month's casual leave, provided that if the absence of such Government servant makes it necessary for a substitute to be appointed, the period of absence up to one month may under orders of Government be treated as extra privilege leave and not as casual leave. Any further leave required should be privilege or sick leave.

4. Any Government servant drawing not more than Rs. 500 a month, a member of whose family is bitten by a rabid animal, and who has difficulty in finding at once the means of sending him or her to the Pasteur Institute at Coonoor, may be granted an advance not exceeding the actual travelling expenses admissible under Rule 2 (i) *plus* one month's pay. If he does not draw more than Rs. 100 a month, an advance of the travelling expenses of an attendant, if necessary, may be given to a similar amount and subject to the same conditions of recovery (see below) as for the patient. In the case of Government servants whose pay does not exceed Rs. 50 (or in the case of those drawing over Rs. 50, but not more than Rs. 100, where special circumstances exist) the recovery of the amount advanced as travelling expenses of the attendant may be waived altogether or in part if the head of the department thinks fit.

5. Government servants drawing more than Rs. 25 per mensem proceeding to the Pasteur Institute for treatment should bear the

cost of their maintenance both during the journey and while under treatment at the Institute. Those drawing not more than Rs. 25 per mensem are entitled to maintenance allowance during treatment as well as during the journey to and from the Pasteur Institute at the rates of daily allowance admissible to officers of the 3rd and 4th classes as the case may be under Article 1063 of the Civil Service Regulations (5th edition), clauses (iii) and (iv).

6. The officers of the Madras Presidency mentioned in Appendix A are authorized to grant the above-mentioned concessions to Government servants employed under them or subject to their authority.

7. The despatch of every Government servant to the Coonoor Institute for treatment should at once be reported to the officer immediately superior to the officer by whom the patient is sent, and by that officer, if he is not the head of the department, to the head of the department. Where the head of the department himself sends the person, no further report will be required. A report should also at once be made direct to the Director of the Pasteur Institute, Coonoor, stating—

(*a*) the class to which the patient has been treated as belonging for the purpose of travelling allowance;
(*b*) the amount of travelling allowance (by rail, road or river) advanced; and
(*c*) the number of days for which and the rate at which maintenance allowance has been advanced.

Note.—No amount can be drawn from the Coonoor sub-treasury until this information is received at the Pasteur Institute.

8. The Director's discharge certificate should be prepared in duplicate: one copy of it should be despatched by him to the Government servant responsible for the original advance, and the other copy should be attached to the bill for the travelling allowance for the return journey which will be presented for payment at the Coonoor treasury.

9. The bill for travelling allowance for the return journey should be at the same rates as were allowed for the journey to the Institute and should also be supported by the original intimation received from the officer who is responsible for the original advance. Maintenance charges for days spent at Coonoor and for the days of the return journey may be advanced on separate bills drawn by the Director, who will certify thereon the class to which the patient belongs and the number of days that he was under treatment or that will be occupied in the journey.

10. The travelling and maintenance allowances of Government servants who are paid from Imperial and Provincial funds should be debited to a special detailed head, viz., "32. Miscellaneous—Miscellaneous and unforeseen charges-Charges for the treatment of patients at the Pasteur Institute." The travelling and maintenance allowances of servants of Port and Marine funds administered by Government should be debited to the funds from which their salaries are met. Any recoveries of overdrawals to be effected in consequence of a Government servant having been allowed travelling allowance in excess of that to which he was entitled will be made by the Accountant-General.

11. All advances made to Government servants under Rules 2, 3, and 4 should ordinarily be recovered in three equal monthly instalments as provided in Article 137 (*h*) of the Civil Account Code. But in special cases where it is considered that the enforcement of the rule would cause hardship, the Local Government or the Honourable the Judges of the High Court, the Board of Revenue, and the officers named in the margin, who have been specially empowered in that behalf may sanction the repayment of an advance in more than three, but not more than twelve, instalments.

Surgeon-General; Inspector-General of Prisons; Inspector-General of Police; Inspector General of Registration; Right Reverend the Bishop of Madras; Presidency Port Officer; Director of Public Instruction; Chief Engr., P.W.D., Sanitary Commr.

B.—Concessions to Indigent Persons not employed in the Public Service.

12. Any indigent person domiciled in British India not employed in the Public Service who has been bitten by a rabid animal, and who, in the opinion of any officer authorized to grant the concession, is unable to proceed to the Pasteur Institute, Coonoor, for treatment at his own expense, may be granted his actual travelling expenses to Coonoor and back, viz. (*a*) a single third-class fare each way by railway, (*b*) for journeys by road or river, the actual cost of transit, (*c*) maintenance allowance at the following daily rates:—

Europeans and Eurasians, one rupee during the journey and Rs. 2-8-0 during treatment; Indians, four annas during the journey and six annas during treatment.

Provided that for the purpose of this rule no person or member of the family of a person who pays more than Rs. 50 as kist per annum or whose income from any other source than land exceeds Rs. 30 per mensem shall ordinarily be classed as indigent; nor shall any person be classed as indigent who has at the time or can obtain from relatives the means of paying his expenses.

A list of the officers in the Madras Presidency authorized to grant this concession is given in Appendix B.

13. A third class pass or ticket from the patient's station to Coonoor by the shortest and cheapest route on the terms allowed by the Railway Companies will be procured for the patient by the officer who despatches him to Coonoor. The Director, Pasteur Institute, Coonoor, will make similar arrangements for the patient's return journey after treatment.

14. The railways, parties to the Indian Railway Conference Association, which are noted below, allow concessions to indigent patients and their attendants proceeding to the Pasteur Institute at Coonoor for anti-rabic treatment under the conditions noted below:—

* * * *

* * * *

* * * *

Bengal-Nagpur Railway.
Great Indian Peninsula Railway.
His Highness the Nizam's Guaranteed Railway.

Madras and Southern Mahratta Railway.
South Indian Railway.

* * * *

(*a*) an indigent person not in the public service (together with one attendant, when such indigent person is a woman or is a child under sixteen years of age, or is a man who, by reason of age or other sufficient cause, is incapable of travelling alone), will be granted third-class tickets free of charge;

(*b*) tickets for the return journey will be issued on production of a certificate signed by the authorities of the Pasteur Institute;

(*c*) only one attendant as above will be allowed with each patient or each party of patients of the same family;

(*d*) the requisition for tickets must have the impression of the official seal of the office from which issued; it must be signed by one of the authorities mentioned in Appendix B.

Erasures and alterations in a requisition must be initialled by the issuing officer.

(*e*) a certificate in the form printed as Appendix C should be filled in by the despatching officer and presented to the Station-master when application is made for the grant of free third-class tickets or passes to Coonoor.

15. The patient may be paid in advance the actual cost of transit for journeys by road or by river, when necessary, and maintenance allowance for the period of his journey to Coonoor. He should take with him to Coonoor and produce before the Director of the Institute a certificate signed by the officer despatching him that he has been sent to the Institute for treatment at the expense of Provincial revenues or by Local or Municipal Funds.

16. The maintenance allowance of the patient while under treatment at Coonoor and for the period of the return journey, and also, if necessary, the cost of transit for journeys by road or by river on the return journey, will be disbursed by the Director, Pasteur Institute, Coonoor, in the first instance and subsequently recovered from the sub-treasury, Coonoor, on production of a discharge certificate.

17. The Director's discharge certificate should be prepared in duplicate; one copy should be despatched by him to the Government servant responsible for the original advance, and the other should be attached to the bill for travelling allowance for the return journey when presented for payment at the Coonoor treasury.

18. The bill for travelling allowance for the return journey should be at the same rates as were allowed for the journey to the institute and should be supported by the intimation received from the officer responsible for the original advance.

19. Maintenance charges for days spent at Coonoor and for the days of the return journey may be advanced on separate bills drawn by the Director who will certify thereon the days that the patient was under treatment or that will be occupied in the journey.

20. Women, children under 16 years of age, and men who are, by reason of age or other sufficient cause, incapable of travelling

alone, may be allowed an attendant to accompany them to the Institute at Coonoor. Any such attendant shall be granted—

(i) travelling expenses and maintenance allowance at the rates sanctioned for patients; and

(ii) wages, not exceeding four annas a day, in cases where the despatching officer is satisfied that the patient is unable to pay the daily expenses of the attendant.

[This concession is also admissible to Government servants drawing not more than Rs. 100 a month. The case of members of their families is regulated by rule 4 above.]

The charges of the attendant will be borne by the fund to which the charges on account of the patient are debited. Only one attendant may be sent at the public expense with each patient or patients of the same family.

21. The despatch of each indigent person to Coonoor for treatment at the public expense should at once be reported to the Director of the Institute; to the Chairman of the Municipal Council or the President of the Local Board concerned, if the area from which the patient is despatched is within the limits of a Municipal town or of a Local Board; and in every case a report should also at once be sent to the Accountant-General.

The report should state—

(*a*) The amount of travelling allowance (by rail, road or river) advanced;

(*b*) The number of days for which and the rate at which maintenance allowance has been advanced;

(*c*) Whether it is proposed that the cost should be borne by Provincial revenues or by Municipal or Local funds.

22. The expenses incurred in the treatment of indigent persons should be debited to—

(*a*) "Municipal funds", where the person sent resides within the limits of a municipality.

(*b*) "Local funds", where the residence is outside a municipality but in a tract where the Madras Local Boards Act, 1884, is in force.

(*c*) To "Provincial revenues", in all other cases.

The expenditure under Provincial revenues should be debited to a special detailed head, viz., "32. Miscellaneous—Miscellaneous and unforeseen charges—Charges for the treatment of patients at the Pasteur Institute."

23. The Director may make advances to indigent persons who come to Coonoor at their own expense, but are unable to maintain themselves there or to pay for their return journey. The possibility of recovering these advances should then be investigated in the following manner:—The Director should correspond direct with the officers in charge of the districts to which the patients, to whom advances have been made, say they belong, and should ask them to take over for investigation claims in respect of the advances made. District Officers should take over these claims as soon as they are satisfied that the persons who received the advances actually belong to their districts, and should inform the Director that they have done so. The Director should then recover the amounts

advanced from the Treasury, producing the district officer's 'acceptances' as vouchers, and the claims should then be passed on to the provinces concerned—to be adjusted as the amounts advanced are recovered or written off under the local rules. Any sum which is found to be irrecoverable after being passed on to a district officer will be debited to the province concerned as a provincial charge under the head "32—Miscellaneous—Miscellaneous and unforeseen charges for the treatment of patients at the Pasteur Institute, Coonoor." Otherwise, i.e., if no district officer takes over the claim, it will be adjusted finally under the same head in the books of the Accountant-General, Madras.

24. With regard to indigent patients who are sent for treatment from the Pasteur Institute to the Municipal Hospital, Coonoor, the Director may, in the first instance, defray the expenses connected with their diet and in case of death, of their burial or cremation, as the case may be, and recover the cost in accordance with the procedure laid down in Rules 19 and 23.

XIII—ADVICE TO PATIENTS DURING THEIR COURSE OF TREATMENT.

1. Violent exercise such as Football and Hockey should be avoided. Tennis, Golf and moderate walking are permitted, but patients must be guided to some extent by their own feelings and stop short of any sense of exhaustion.

2. Alcohol has a pernicious effect on the treatment and should not be taken. A single peg at dinner will do no harm.

3. Meals and baths as usual.

4. Great care must be taken to avoid any chance of chill.

5. In the event of the injections causing itching, swelling or pain hot fomentations on the part will give relief.

6. During the treatment, and for at least a fortnight afterwards, the patient should regard himself as a convalescent and undertake no heavy work either physical or mental, and beware of late nights, chill, alcohol and exhaustion.

XIV—INSTRUCTIONS FOR DEALING WITH PERSONS BITTEN BY DOGS OR OTHER ANIMALS WHICH MAY BE RABID.

1. When any person is bitten by an unknown dog without provocation, he should go to Coonoor for treatment without delay, for experience has shown that it is likely that such a dog is rabid.

2. When any person is bitten by a dog which is known and can be captured, that dog should not be killed but securely tied up.

(*a*) If it is alive and well ten days after inflicting the bite, the person bitten need not go for treatment.

(*b*) If, however, the dog falls ill or dies within ten days, the person bitten should go for treatment and take with him portions of the dog's brain for verification, preserved according to the instructions issued.

3. Persons who are licked on the unbroken skin need not come for treatment.

4. Persons who have merely handled rabid animals and have no recent wounds need not come for treatment.

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APPENDIX A.

LIST OF OFFICERS EMPOWERED TO GRANT CONCESSIONS TO GOVERNMENT SERVANTS EMPLOYED UNDER THEM OR SUBJECT TO THEIR AUTHORITY TO PROCEED TO THE PASTEUR INSTITUTE, COONOOR, FOR TREATMENT.

Ecclesiastical Department.

1. The Right Reverend the Bishop of Madras.
2. The Venerable the Archdeacon.
3. The Presidency Senior Chaplain, Church of Scotland.
4. The Registrar of the Diocese.
5. All Chaplains in charge of Principal Chaplain's stations and clergymen appointed to act for Chaplains under article 602, Civil Service Regulations.

Political Department.

1. The Resident in Travancore and Cochin.
2. The Assistant Resident, Travancore and Cochin.
3. The Political Agent, Pudukkottai.
4. Do. Banganapalle.
5. Do. Sandur.
6. The Paymaster, Carnatic Stipends.

Marine Department.

1. The Presidency Port Officer, Madras.
2. The Deputy Conservator of the Port of Madras.
3. Port Officers and Port Conservators.
4. The Agent for Government Consignments.

Judicial Department.

1. The Honourable the Judges of the High Court.
2. The City Civil Judge, Madras.
3. Judges of the Small Cause Court, Madras.
4. All Presidency Magistrates.
5. District Judges.
6. Sub-Judges.
7. District Munsifs.

Police Department.

8. The Inspector-General of Police.
9. Deputy Inspectors-General of Police (including the Commissioner of Police, Madras).
10. District Superintendents of Police (including the Deputy Commissioners of Police, Madras).
11. Assistant Superintendents of Police.
12. Deputy Superintendents of Police.

Jail Department.

13. The Inspector-General of Prisons.
14. Superintendents of Jails.

Registration Department.

15. The Inspector-General of Registration.
16. District Registrars.
17. Sub-Registrars.

Public Works Department.

1. All sub-divisional and special officers of higher rank and all heads of offices (for persons immediately subordinate to them).
2. State Railway Officers not below the rank of Assistant Engineer.
3. Government Railway Sub-Assistant Surgeons and Apothecaries.
4. Officers in charge of Survey Parties.

Revenue Department.

1. Collectors.
2. Divisional Officers.
3. Tahsildars (including Land Records Tahsildars).
4. Deputy Tahsildars in independent charge.
5. Heads of Public offices in Madras.
6. Officers of and above the rank of Extra Assistant Conservators in the Forest Department.
7. Officers in the Executive line of and above the rank of Assistant Inspector in the Separate Revenue Department.
8. Gazetted Officers of the Agricultural Department.
9. Officers of and above the rank of Assistant Directors in the Survey Department and Sub-Assistants of Survey.
10. Officers in charge of Settlement Parties, Supervisors and temporary Supervisors employed in the Settlement Department.

Financial Department.

1. The Accountant-General and Commissioner of Paper Currency.
2. The Superintendent of Stationery.
3. The Postmaster-General.

Educational Department.

1. The Director of Public Instruction and Commissioner for Government Examinations.
2. The Deputy Director of Public Instruction.
3. The Superintendent, Government Central Museum.
4. Inspectors of Schools.
5. Inspectresses of Girls' Schools.
6. Principals of Government Colleges.
7. The Superintendent, School of Arts.

Local and Municipal Department.

1. The Sanitary Commissioner.
2. The Deputy Sanitary Commissioner.
3. The Sanitary Engineer.
4. The Director, King Institute of Preventive Medicine, Guindy.

Public Department.

1. The Surgeon-General.
2. The President, Board of Examiners.
3. His Britannic Majesty's Consul at Pondicherry.
4. The Chemical Examiner.
5. The Private Secretary to His Excellency the Governor.
6. The Military Secretary to His Excellency the Governor.
7. The Registrar-General of Births, Deaths and Marriages.
8. The Protector of Emigrants.
9. Commissioned Medical Officers.
10. Civil Surgeons.
11. Military Assistant Surgeons.
12. Civil Assistant Surgeons, Civil Apothecaries and Sub-Assistant Surgeons in independent charge of hospitals or dispensaries.
13. The Superintendent, Government Press.
14. The Superintendent, Archæological Survey, Southern Circle.
15. The Assistant Archæological Superintendent for Epigraphy.
16. The Persian and Hindustani Translator to Government.

Legislative Department.

1. The Tamil Translator to Government.
2. The Telugu do.
3. The Malayalam do.
4. The Canarese do.

Postal Department.

1. Postmaster-General ...	In the case of any Superintendent or first-class Head Postmaster.
2. Superintendents of Post Offices.	In the case of any second-class Head Postmaster, any Inspector, any official in a sub or branch office (other than a town, sub or branch office under the direct control of a first-class Postmaster) or any overseer.
3. Head Postmasters (1st class)...	In the case of any official in a first-class head office or the town, sub and branch offices under the direct control of the first-class Postmaster.
4. Head Postmasters (2nd class).	In the case of any official (other than the Postmaster) in a second-class head office.
5. Inspectors of Post Offices ...	In the case of any postman, village postman or runner or other inferior servant in an Inspector's sub-division.
6. Superintendent, Railway Mail Service. ...	In the case of any Railway Mail Service official below the rank of Superintendent.

APPENDIX B.

LIST OF OFFICERS EMPOWERED TO GRANT CONCESSIONS TO INDIGENT PERSONS NOT EMPLOYED IN THE PUBLIC SERVICE TO PROCEED TO THE PASTEUR INSTITUTE, COONOOR, FOR TREATMENT.

1. Commissioned Medical Officers.
2. Civil Surgeons.
3. Military Assistant Surgeons.
4. Civil Assistant Surgeons, Civil Apothecaries and Sub-Assistant Surgeons in independent charge of hospitals or dispensaries.
5. Collectors.
6. Divisional Officers.
7. Tahsildars.
8. Deputy Tahsildars in independent charge.
9. Officers of the Police Department of and above the rank of Deputy Superintendent of Police.
10. Sub-Registrars.
11. Sub-Assistants of Survey.
12. Chairmen of Municipal Councils.

(Nos. 5–12:) These officers will exercise their powers only when there is no medical officer present at the station.

2. LIST OF RAILWAY OFFICERS EMPOWERED TO ISSUE CERTIFICATES.

I. Officers of the South Indian Railway Company mentioned below:—

1. Agent.
2. Secretary to Agent.
3. Chief Engineer.
4. District Engineers in charge of districts.
5. Assistant Engineers posted to districts.
6. Locomotive and Carriage Superintendent.
7. Deputy Locomotive and Carriage Superintendent.
8. District Locomotive and Carriage Superintendents in charge of districts.
9. District Carriage and Wagon Superintendent.
10. Assistant Locomotive and Carriage Superintendents.
11. Loco Electrical Engineer.
12. General Traffic Manager.
13. Deputy Traffic Managers.
14. District Traffic Superintendents in charge of districts.
15. Assistant Traffic Superintendents posted to districts.
16. Telegraph Superintendent.
17. Chief Auditor.
18. Superintendent of Stores.
19. Deputy Superintendent of Stores.
20. Assistant Superintendents of Stores.
21. Chief Medical Officer.
22. District Medical Officers in charge of Districts.

II. All gazetted officers on the staff of the Bengal-Nagpur Railway.

APPENDIX C.

REQUISITION FOR TICKETS FOR INDIGENT PERSONS PROCEEDING TO OR RETURNING FROM THE PASTEUR INSTITUTE, COONOOR.

(To be signed by an authorized officer—vide Appendix B.)

No.

(Seal of office of issue.)

STATION

Date

To

THE STATION MASTER,

RAILWAY,

STATION.

Please issue to (name of patient with father's or husband's name) , resident of village, taluk, district, and his/her attendant third-class single journey tickets free of charge from ___/Coonoor to Coonoor/___ whither he/she is proceeding for/after anti-rabic treatment. He/She is not in public service and is too poor to defray the railway fare.

* I have satisfied myself that the patient is unable to travel without an attendant.

(Signature)

(Designation in full)

(To be filled in by station staff.)

Third class ticket(s) No.(s). has/have been issued in connection with this requisition.

Station

Date

Booking Clerk.

NOTE.—(1) This requisition should be signed and issued by the officer granting the concession. Issuing officers should enter their designation in full to facilitate reference.

(2) The requisition must be free from erasures of any kind and any alterations made therein must be initialled by the officer issuing it.

(3) The requisition must bear the impression of the official seal of the office from which it is issued.

(4) In the case of children under 16 years of age, women and infirm persons who are unable to take care of themselves, the railway concessions are extended also to the attendant. Only one attendant will be allowed with each patient or party of patients of the same family. If the patient is capable of travelling alone, the words under * should be scored out and intialled by the issuing officer.

(5) The printed forms should be kept in safe custody and only issued under proper supervision.